lamination, the respective outer radially-extending ends of the first and second support blocks extending radially beyond an outer radially-extending end of the winding.

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26. (New) The winding support structure of claim 24, wherein the lamination includes first and second notches formed therein for engaging the outer radially-extending ends of the first and second support blocks, respectively.

27. (New) The apparatus of claim 25, wherein the lamination includes first and second notches formed therein for engaging the outer radially-extending ends of the first and second support blocks, respectively.--

REMARKS

Reconsideration and allowance of this application are respectfully requested. Currently, claims 1-7 and 16-27 are pending in this application.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current Amendment. The attached is captioned "**Version With Markings to Show Changes Made**."

Specification:

The Office Action stated "The use of the trademark RTV has been noted in this application. It should be capitalized whereever it appears and be accompanied by the generic terminology."

Applicant has editorially revised the specification to indicate that a RTV material is a room temperature vulcanizable material as is commonly understood in the art. To the best of Applicant's knowledge, "room temperature vulcanizable" is

not a trademark. Corresponding editorial amendments have been made to claims 6 and 19. Applicant submits that no new matter has been added to the specification.

Rejections Under 35 U.S.C. §102 and §103:

Claims 1, 5, 7, 16 and 20-21 were rejected under 35 U.S.C. §102(b) as allegedly being unpatentable over Boer et al (U.S. '663, hereinafter "Boer").

For a reference to anticipate a claim, each element must be found, either expressly or under principles of inherency, in the reference. Applicant submits that Boer fails to disclose all of the claimed elements. For example, Applicant submits that Boer fails to disclose an outer support ring being arranged between an inner support ring and respective portions of first and second support blocks coupled to the outer support ring.

The above claimed feature is supported by, for example, the exemplary embodiment illustrated in Fig. 4 of the application. In particular, Fig. 4 illustrates an outer support ring 20a being arranged between an inner support ring 10a and respective portions of first and second blocks 51a and 51b coupled to the outer support ring 20a.

Boer discloses a support ring 4, wave spring strips 5, pressure strips 6, 60 and slot teeth 2. The Office Action alleges that Boer's teaching of wave spring strips 5 and pressure strips 6, 60 disclose the claimed outer support ring and slot teeth 2 disclose the claimed first and second support blocks. Even assuming arguendo that the above characterizations that strips 5, 6, 60 discloses the claimed outer support ring and slot teeth 2 discloses the claimed first and second support blocks are correct, Boer fails to disclose each element of the claimed invention. As clearly illustrated in detailed Figs. 8, 11 and 18 of Boer, strips 5, 6, 60 are not arranged between the slot teeth 2 and support ring 4. Rather, as illustrated in Figs. 8, 11 and 18, slot teeth 2 are

clamped directly to support ring 4 with no intervening strips 5, 6 and 60 arranged therebetween.

Accordingly, Applicant submits that Boer fails to anticipate claims 1, 5, 7, 16 and 20-21 and respectfully requests that the rejection of these claims under 35 U.S.C. §102(b) be withdrawn.

Claims 2-4, 6 and 17-19 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over Boer in view of Sato et al (U.S. '724, hereinafter "Sato"). Applicant respectfully traverses this rejection. Since claims 2-4 and 6 depend at least indirectly from claim 1 and claims 17-19 depend at least indirectly from claim 16. The comments made above with respect to Boer apply equally to these claims. Applicant submits that Sato fails to remedy the above deficiencies of Boer with respect to the claimed invention. Accordingly, even if Sato and Boer were combined as proposed by the Office Action, the combination would not have taught or suggested all of the claimed limitations. Accordingly, Applicant respectfully requests that the rejection of claims 2-4, 6 and 17-19 under 35 U.S.C. §103 be withdrawn.

New Claims:

New claims 22-27 have been added to provide additional protection for the invention. Since claims 22-23 depend from claims 1 and 16, respectively, Applicant submits that these claims are allowable for at least the reasons discussed above.

Claims 24-27 require, inter alia, outer radially-extending ends of first and second support blocks extending radially beyond an outer radially-extending end of the winding. This is supported by, for example, the exemplary embodiment illustrated in Fig. 4 of the present invention which shows the radial ends of support block 51a and 51b extending beyond the radial ends of windings 40. Applicant submits that new claims 22-27 are allowable.

Conclusion:

Applicant believes that this entire application is in condition for allowance and respectfully requests a notice to this effect. If the Examiner has any questions or believes that an interview would further prosecution of this application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE IN THE SPECIFICATION:

Please amend the specification as follows.

Paragraph beginning at page 2, line 12 has been amended as follows:

--In accordance with an exemplary embodiment of the present invention, a winding support structure for use with a superconducting rotor comprises an inner support ring, an outer support ring arranged around an outer circumference of the inner support ring, first and second support blocks coupled to said outer support ring and a lamination coupled to the first and second support blocks. A slot is defined between the support blocks and between the outer support ring and the lamination to receive a portion of a winding. The inner ring is a solid ring and the outer ring is a split ring. The outer ring expands to produce a radially outward force against the support blocks when the inner ring is moved axially with respect to the outer ring. The winding support structure may also comprise another inner support ring and another outer support ring which is arranged around the outer circumference of the another inner support ring and is coupled to the lamination. A clearance space in the slot is filled with a room temperature vulcanizable (RTV) material [RTV]. The winding structure may also comprise a third support block coupled to the outer support ring to define another slot between the second and third support blocks to receive another portion of the winding. The winding support structure transmits torque and prevents stator winding vibration.--

Paragraph beginning at page 3, line 1 has been amended as follows:

--In accordance with another exemplary embodiment of the present invention, a method of forming a winding support structure for use with a superconducting rotor

comprises providing a lamination, coupling first and second support blocks to the lamination, providing an inner support ring and an outer support ring around an outer circumference of the inner support ring, and coupling the lamination and the support blocks to the outer ring to define a slot between the support blocks and between the lamination and the outer ring to receive a portion of a winding. An RTV material is applied into a clearance space in the slot. Wedges are respectively arranged between adjacent bars forming the winding prior to applying the RTV material into the clearance space and then removed after applying the RTV material into the clearance space. Additional RTV material is applied in a space where the wedges are removed. Coupling the lamination and the support blocks to the outer support ring comprises pulling the winding to the outer support ring and tying the winding to the inner and outer support rings. Providing an inner support ring and an outer support ring comprises providing a solid ring and a split ring, respectively. The outer ring expands to produce a radially outward force against the support blocks when the inner ring is moved axially with respect to the outer ring. Another outer support ring can be provided around an outer circumference of another inner support ring and coupled to the lamination. A third support block may be coupled to the outer support ring to define another slot between the second and third support blocks to receive another portion of the winding. The method of forming the winding support is accomplished using a minimal number of parts and minimal construction cost.--

Paragraph beginning at page 3, line 25 has been amended as follows:

--In accordance with yet another exemplary embodiment of the present invention, an apparatus for use with a superconducting rotor comprises an inner support ring, an outer support ring arranged around an outer circumference of the

inner support ring, first and second support blocks coupled to the outer support ring, a lamination coupled to the first and second support blocks, and a winding. A portion of the winding is arranged within a slot that is defined between the support blocks and between the outer ring and the lamination. The inner ring is a solid ring and the outer ring is a split ring. The outer ring expands to produce a radially outward force against the support blocks and the winding when the inner ring is moved axially with respect to the outer ring. A clearance space in the slot is filled with an RTV material. The apparatus can further comprise another inner support ring and another outer support ring which is arranged around the another inner support ring and coupled to the lamination. The apparatus can further comprise a third support block coupled to the outer support ring to define another slot between the second and third support blocks and between the outer support ring and the lamination, another portion of the winding being arranged in the another slot.--

Paragraph beginning at page 5, line 17 has been amended as follows:

--The support structure 1 includes a plurality of inner support rings 10a-10j, a plurality of outer support rings 20a-20j, a plurality of laminations 30a-30i, 31a-31i, a plurality of support blocks 51a-51l and an RTV material 42. The inner support rings 10a-10j are centered about a longitudinal axis 3 of the support structure 1 and are spaced axially apart along the direction of the longitudinal axis 3. The outer support rings 20a-20j are respectively arranged around the outer circumferences of the inner support rings 10a-10j. Each one of the laminations 30a-30i to 31a-31i forms a semi-circle portion and a pair of laminations (e.g., 30a, 31a) together forms a complete circumference of the support structure 1. Those skilled in the art will appreciate that the complete circumferences can be formed by dividing the laminations into more

than two semi-circle portions. The laminations 30b-30i and 31b-31i are stacked in the axial direction (i.e., along the direction parallel to the longitudinal axis 3) with respect to laminations 30a, 31a, respectively, to form a core of the stator. Gaps 33 are interposed between each of the laminations 30a-31i, 31a-31i in the axial direction to allow for air cooling of the winding 40. Alternatively, a cooling pad (not shown) such as a water cooling pad can be interposed between each of the laminations 30a-30i, 31a-31i in the axial direction. While the discussion below focuses primarily on only one inner support ring 10a, one outer support ring 20a, one laminations 30a, and two support blocks 51a-51b in detail, those skilled in the art will appreciate that similar comments apply to the others forming the support structure 1.--

Paragraph beginning at page 8, line 10 has been amended as follows:

--As noted above, clearance space is formed in the slot 70a of the lamination 30a between the support blocks 51a, 51b. This clearance space exists, for example, between the bars of the winding 40, between each support block 51a, 51b and the closest bar of the winding 40, and between the bars and a face of the lamination 30a defining the slot 70a. In order to restrict the movement of the winding 40 caused by the electromagnetic forces of the generator and to ensure that the winding 40 electrically contacts the lamination 30a, the clearance space is filled by a high conductivity, high compression RTV material 42.--

Paragraph beginning at page 8, line 19 has been amended as follows:

--As illustrated in Figure 6, prior to filling the clearance space in the slot 70a with a RTV material 42, at least one teflon wedge 72a is placed on the inside diameter between two bars of the winding 40 to contain the RTV material 42. Additionally, at

least one teflon wedge 72b is arranged on the outside diameter between two bars of the winding 40. After the RTV material 42 is applied to fill the clearance space, the wedges 72a, 72b are removed and additional RTV material 42 is applied to fill the void formed where the wedges 72a, 72b are removed. The RTV material 42 can be applied into the clearance space through radial tubes (not shown) spaced around the circumference of the stator core which allow the injection of the RTV material 42. Cooling pads similar to those disclosed in the commonly assigned U.S. Patent 5,473,207 (Hopeck et al, "Cooling Pads for Water-Cooled Stator Cores in Dynamoelectric Machines and Methods of Fabrication"), the contents of which are incorporated herein by reference, can also be provided on the outer circumference of the stator core and have provisions for the addition of the radial tubes for RTV material injection.--

IN THE CLAIMS:

1. (Amended) A winding support structure for use with a superconducting rotor, said support structure comprising:

an inner support ring;

an outer support ring arranged around an outer circumference of said inner support ring;

first and second support blocks coupled to said outer support ring so that the outer support ring is arranged between the inner support ring and respective portions of the first and second support blocks coupled to the outer support ring; and

a lamination coupled to said first and second support blocks so that a slot is defined between said support blocks and between said outer support ring and said lamination to receive a portion of a winding.

6. (Amended) The winding support structure of claim 1 wherein a clearance space in said slot is filled with a RTV material.

16. (Amended) An apparatus for use with a superconducting rotor comprising:

an inner support ring;

an outer support ring arranged around an outer circumference of said inner support ring;

first and second support blocks coupled to said outer support ring so that the outer support ring is arranged between the inner support ring and respective portions of the first and second support blocks coupled to the outer support ring;

a lamination coupled to said first and second support blocks; and

a winding, a portion of said winding being arranged within a slot that is defined between said support blocks and between said outer support ring and said lamination.

19. (Amended) The apparatus of claim 16 wherein a clearance space in said slot is filled with a RTV material.